

**REMARKS**

Claims 1-3, 5-17, 19-22, 24-28 and 52 are pending in the application.

Claims 1-3, 5-11, 13-17, 19, 20, 24-28 and 52 are rejected.

Claims 12, 21 and 22 are objected to.

Claims 1, 2, 6, 7 and 52 are rejected under 35 U.S.C. 102(b).

Claims 1, 3, 6, 7 and 52 are rejected under 35 U.S.C. 102(e).

Claims 1, 2, 6-9, 11 and 13-19 are rejected under 35 U.S.C. 102(e).

Claims 20 and 24-28 are rejected under 35 U.S.C. 102(e).

Claims 5 and 10 are rejected under 35 U.S.C. 103(a).

No new matter is added.

Claims 8-11 are voluntarily cancelled hereby, without prejudice.

Claims 1-3, 5-7, 12-17, 19-22, 24-28 and 52 remain in the case for consideration.

Applicant requests reconsideration and allowance of the claims in light of the above amendments and following remarks.

***Claim Objections***

Claims 5, 19 and 24 are objected to because of the following informalities: claim 5 depends from claim 4 but claim 4 has been cancelled; claim 19 depends from claim 18 but claim 18 has been cancelled; and claim 24 depends from claim 23 but claim 23 has been cancelled. In response, and consistent with the Examiner's provisional treatment, applicants hereby amend claim 5 to depend from claim 1, claim 19 to depend from claim 8 and claim 24 to depend from claim 21.

***Claim Rejections – 35 U.S.C. § 102***

Claims 1, 2, 6, 7 and 52 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. 6,184,567 to Fujisawa, et al. (of record, hereinafter "Fujisawa").

Applicants hereby amend claims 1 and 52 more definitely to claim their invention.

Specifically, claim 1 now recites a first stair-stepped metal layer forming a first electrode region and a contact region, whereby the first metal layer "steps laterally and downwardly across the dielectric layer and into and across the contact opening" to create an electrical connection with the wire therein, as well as a second electrode of a second metal layer that is closer to the substrate than the first stair-stepped metal layer. Such a stair-stepped metal layer making such electrical contact is clearly shown in the original drawings that form a part of the present specification. See Figs. 5-7, 9-11, 17-19, 23-25 and 28-29 in the regions adjacent reference designator C/H1. Thus no new matter is added. None of the Docket No. 9898-270                      Page 6 of 8                      Application No. 10/678,531

prior art, including Fujisawa, shows such a stair-stepped metal layer structure including a top electrode region and a wire contact region.

Claim 52 now recites a limitation found nowhere in the prior art, including Fujisawa, which teaches deep contact openings 34 having high vertical:horizontal aspect ratios for connecting top electrodes (see Fig. 8). Specifically, amended claim 52 recites that the contact opening has a vertical:horizontal aspect ratio that is less than about 1:1. This feature of the invention and its useful advantage (high dielectric strength but thin dielectric layer) is clear from the original drawings and description. See specification at page 6, lines 1-5; contrast prior art Figs. 1 and 2 with invention Figs. 5- 7, 9- 11, 17-19, 23-25, 28, 29 and 32.

Claims 1, 3, 6, 7 and 52 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. 6,881,996 to Chen, et al. (hereinafter "Chen").

Claims 1 and 52 as amended are discussed at length above and distinguish over all of the cited references, including Chen, the prior art status of which applicants do not concede. Accordingly, for all the reasons given above, amended claim 1 and those depending from it are allowable, along with amended claim 52. (Chen teaches deep contact holes having high vertical:horizontal aspect ratios through the dielectric and associated layers. See Fig. 13.)

Claims 1, 2, 6-9, 11 and 13-19 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. 6,784,478 to Merchant, et al. (of record, hereinafter "Merchant").

Claim 1 as amended is discussed at length above and distinguishes over all of the cited references, including Merchant, the prior art status of which applicants do not concede. Accordingly, for all the reasons given above, amended claim 1 and those depending from it are allowable.

Claims 8-9 and 11 are cancelled hereby, without prejudice, thereby rendering moot the Examiner's rejections thereof.

Claims 13-19 depend from amended claim 12, which the Examiner has indicated would be allowable if it incorporated its base and intervening claim limitations, which claim 12 as amended does. Accordingly, for reasons discussed below in consideration of amended claim 12, claims 13-19 are allowable.

Claims 20 and 24-28 are rejected under 35 U.S.C. 102(e) as being anticipated by 2005/0063135 to Borland, et al. (hereinafter "Borland").

First, applicants request withdrawal of the rejection based upon Borland, the effective filing date of which is September 18, 2003, nearly a year later than applicants' earliest effective (Korean priority) filing date of October 17, 2002. A proper claim of priority has been made in connection with applicants' October 3, 2003 United States filing. Therefore,,

Borland is not prior art to the present application. Enclosed is a translation of the priority

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document which was submitted with the original application. Therefore, the rejection under Section 102(e) is overcome.

Claims 24-28 now depend from amended independent claim 21, indicated by the Examiner as being allowable if rewritten to incorporate original base claim 20 limitations and discussed below, and thus are allowable therewith.

***Claim Rejections – 35 U.S.C. § 103***

Claims 5 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over any of Fujisawa, Chen and Merchant as applied above in view of U.S. 6,800,923 to Yamamoto.

Claim 10 is cancelled hereby, without prejudice, thereby rendering moot the Examiner's rejection thereof. Claim 5 depends from amended claim 1. Accordingly, for the reasons discussed above regarding the allowability of amended claim 1, claim 5 also is allowable.

***Allowable Subject Matter***

Claims 12, 21 and 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. In response, applicants hereby amend claim 12 to incorporate all the limitations of its base and intervening claims 8 and 11. Similarly, applicants hereby amend claim 21 to incorporate all the limitations of its original base claim 20. Accordingly, claims 12, 21 and 22 (depending from claim 21) are allowable. Likewise, claims 23-28, which depend also from amended claim 21, are allowable.

For the foregoing reasons, reconsideration and allowance of claims 1-3, 5-7, 12-17, 19-22, 24-28 and 52 of the application as amended is solicited. The Examiner is encouraged to telephone the undersigned at (503) 222-3613 if it appears that an interview would be helpful in advancing the case.

Respectfully submitted,  
MARGER JOHNSON & McCOLLOM, P.C.



Hosoon Lee, Reg. No. 56,737

MARGER JOHNSON & McCOLLOM, P.C.  
1030 SW Morrison Street  
Portland, OR 97205  
503-222-3613  
Customer No. 20575

I hereby certify that this correspondence is being transmitted to the U.S. Patent and Trademark Office via facsimile number (571) 273-8300 on August 24, 2005.



Li Mei Vermilya

**CERTIFICATION OF TRANSLATION**

I, Mi-sun Rhee, an employee of Y.P.LEE, MOCK & PARTNERS of The Cheonghwa Bldg., 1571-18 Seocho-dong, Seocho-gu, Seoul, Republic of Korea, hereby declare under penalty of perjury that I understand the Korean language and the English language; that I am fully capable of translating from Korean to English and vice versa; and that, to the best of my knowledge and belief, the statements in the English language in the attached translation of the priority document (Korean Patent Application No. 10-2002-0063477), consisting of 40 pages, have the same meanings as the statements in the Korean language in the original document, a copy of which I have examined.

Signed this 10th day of August, 2005



**Mi-sun Rhee**